

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 Claim 1 (currently amended): A communications method of
2 ~~processing paging information in a communications system~~, the
3 method comprising:

4 operating ~~a first node~~ an access node to receive a data
5 message directed to an end node ~~said paging information~~, said
6 ~~paging information including at least one of a quality of~~
7 ~~service indicator, a type indicator, a source indicator, and a~~
8 ~~destination indicator~~; and

9 operating the ~~first node~~ access node to determine a paging
10 requirement using packet classification based on a header field
11 included in said data message ~~from said received paging~~
12 ~~information a paging requirement, said paging requirement being~~
13 ~~determined as a function of said at least one of a quality of~~
14 ~~service indicator, a type indicator, a source indicator, and a~~
15 ~~destination indicator~~.

1 Claim 2 (currently amended): The method of claim 1,
2 wherein said paging requirement is determined as a function
3 of at least one of a quality of service indicator, a type
4 indicator, a source indicator, and a destination indicator; and
5 wherein said access node is a base station, the method
6 further comprising:

7 operating said ~~first node~~ access node to allocate a paging
8 transmission resource for transmitting a page as a function of
9 the determined paging requirement, at least some of said
10 plurality of paging requests having different determined paging
11 requirements resulting in different allocation of access node
12 resources.

1 Claim 3 (currently amended): The method of claim 2, further
2 comprising:

3 operating said access node ~~first node~~ to transmit a page
4 over a wireless communications link using the allocated paging
5 transmission resource.

1 Claim 4 (currently amended): The method of claim 3, wherein
2 said step of transmitting a page includes incorporating into
3 ~~said~~ page information indicating a state of device operation, in
4 which a device to which said page is directed, is to operate
5 after receiving said page.

1 Claim 5 (currently amended): The method of claim 2, further
2 comprising:
3 operating said access node ~~first node~~ to communicate a
4 paging signal to a second node, indicating allocation of a
5 paging transmission resource for use in transmitting a page
6 corresponding to said received data message ~~paging information~~.

1 Claim 6 (currently amended): The method of claim 1, further
2 comprising:
3 operating said access node ~~first node~~ to communicate said
4 determined paging requirement to a second node in a paging
5 request message.

1 Claim 7 (currently amended): The method of claim 6, wherein
2 said page request message includes at least a portion of said
3 received ~~paging information~~ data message.

1 Claim 8 (original): The method of claim 7, wherein said
2 determined paging requirement, indicated in said paging request
3 message, is that said portion be included in a page.

1 Claim 9 (original): The method of claim 6, wherein said
2 determined paging requirement, indicated in said paging request
3 message, is that a page be acknowledged.

1 Claim 10 (original): The method of claim 6, wherein said
2 determined paging requirement, indicated in said paging request
3 message, is a quality of service.

1 Claim 11 (original): The method of claim 10, wherein said
2 quality of service includes a page transmission timing
3 constraint.

1 Claim 12 (original): The method of claim 10, wherein said
2 quality of service is one of a plurality of levels.

1 Claim 13 (original): The method of claim 10, wherein said
2 quality of service requires that a page be transmitted multiple
3 times.

1 Claim 14 (original): The method of claim 10, wherein said
2 quality of service requires retransmission of a page at least
3 once in the absence of an acknowledgment.

1 Claim 15 (original): The method of claim 14, further
2 comprising:
3 operating the second node to cause said re-transmission of
4 said page to be into a geographic area larger than an initial
5 transmission area of said page.

1 Claim 16 (original): The method of claim 6,
2 wherein said determined paging requirement, indicated in
3 said paging request message, is a quality of service level; and
4 wherein said page request message includes paging resource
5 allocation information indicating a fraction of a paging
6 resource to be allocated by said second node to pages having
7 said quality of service level, the method further comprising:

8 operating the second node to allocate said fraction of said
9 paging resource to pages having a quality of service level
10 indicated in said paging request message.

1 Claim 17 (original): The method of claim 6, further comprising:
2 operating said second node to allocate a paging
3 transmission resource for transmitting a page, as a function of
4 said determined paging requirement, indicated in said paging
5 request message.

1 Claim 18 (original): The method of claim 17, further
2 comprising:
3 operating said second node to transmit a page using the
4 allocated paging transmission resource.

1 Claim 19 (currently amended): The method of claim 17, further
2 comprising:
3 operating said second node to communicate a paging signal
4 to a third node, indicating allocation of a paging transmission
5 resource for use in transmitting a page corresponding to said
6 ~~paging information~~ data message.

Claims 20-26 (canceled)

1 Claim 27 (currently amended): A communications system
2 comprising:
3 a base station ~~first node~~ including:
4 i) means for receiving a data message directed to an end node
5 ~~paging information, said paging information including at least~~
6 ~~one of a quality of service indicator, a type indicator, a~~
7 ~~source indicator, and a destination indicator; and~~
8 ii) means for determining a paging requirement using packet
9 classification based on a header field included in said data
10 message ~~from said received paging information a paging~~

11 ~~requirement~~, said paging requirement being determined as a
12 function of ~~said~~ at least one of a quality of service indicator,
13 a type indicator, a source indicator, and a destination
14 indicator.

1 Claim 28 (currently amended): The system of claim 27, wherein
2 said base station ~~first node~~, further comprises:

3 means for allocating a paging transmission resource for
4 transmitting a page as a function of a determined paging
5 requirement.

1 Claim 29 (currently amended): The system of claim 28, wherein
2 said ~~first node~~ base station further includes a radio
3 transmitter for ~~transmit~~ transmitting a page using the allocated
4 paging transmission resource.

1 Claim 30 (currently amended): The system of claim 29, wherein
2 said ~~first node~~ base station further includes:

3 means for generating a paging request message including
4 information indicating said determined paging requirement; and
5 means for transmitting said paging request message to
6 another node.

1 Claim 31 (currently amended): The system of claim 30, wherein
2 said page request message includes at least a portion of said
3 received ~~paging information~~ data message and wherein said
4 determined paging requirement, indicated in said paging request
5 message, is that said portion be included in a page.

1 Claim 32 (original): The system of claim 30, wherein said
2 determined paging requirement, indicated in said paging request
3 message, is that a page be acknowledged.

1 Claim 33 (original): The system of claim 30, wherein said
2 determined paging requirement, indicated in said paging request
3 message, is a quality of service requirement.

1 Claim 34 (original): The system of claim 30, further
2 comprising:

3 a second node, said second node including:

4 i) means for receiving said paging request message;

5 ii) means for allocating at least one paging resource as a
6 function of paging requirement information included in a
7 received paging request message; and

8 iii) means for transmitting a page to a mobile node using
9 the at least one allocated paging resource.

1 Claim 35 (new): A communications method, the method comprising:

2 servicing a plurality of different paging requests by
3 allocating-different amounts of a paging transmission resource
4 to different paging requests, said paging transmission resource
5 being one of transmission power, bandwidth, frequency, and
6 transmission time slots; and

7 transmitting a page corresponding to one of said plurality
8 of different paging requests over a wireless communication link
9 using the amount of said paging transmission resource allocated
10 to said one of said plurality of different paging requests.

1 Claim 36 (new): The method of claim 35, wherein said servicing
2 and transmitting steps are performed by a base station.

1 Claim 37 (new): The method of claim 35, wherein said paging
2 transmission resource is bandwidth.

1 Claim 38 (new): The method of claim 35, wherein said paging
2 transmission resource is frequency.

1 Claim 39 (new): The method of claim 35, wherein said paging
2 transmission resource is timeslots.

1 Claim 40 (new): The method of claim 35, wherein said paging
2 transmission resource is transmission power.

1 Claim 41 (new): The method of claim 35, wherein allocating
2 different amounts of a paging transmission resource includes
3 allocating a minimum fraction of paging channel capacity to a
4 group of paging requests having a common quality of service
5 indicator.

1 Claim 42 (new): A method of operating an access node, the
2 method comprising:
3 allocating a minimum fraction of paging channel capacity to
4 a group of paging requests having a common quality of service
5 indicator; and
6 transmitting a page corresponding to one of the paging
7 requests in said group over a wireless communication link.

1 Claim 43 (new): A method of operating an access node, the method
2 comprising:
3 determining an ordering in which pages corresponding to a
4 plurality of paging requests are transmitted based on a time
5 constraint requirement associated with one of said plurality of
6 paging requests; and
7 transmitting a page corresponding to said one of the paging
8 requests over a wireless communications link.

1 Claim 44 (new): The method of claim 43, wherein said time
2 constraint requirement is a maximum latency.

1 Claim 45 (new): The method of claim 43, wherein said step of
2 transmitting a page includes transmitting said page

3 corresponding to said one of the paging requests prior to
4 transmitting a page corresponding to a previously received
5 paging request.